```
R version 4.2.2 (2022-10-31 ucrt) -- "Innocent and Trusting"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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  Natural language support but running in an English locale

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Type 'demo()' for some demos, 'help()' for on-line help, or
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Type 'q()' to quit R.

> #probability of random point in square is inside the circle using nsim
> #pi is given by draws and multiplying it by four
> pi.fun <- function(nsim){
+ x <- runif(nsim)
+ y <- runif(nsim)
+ prob <- mean(sqrt((x-0.5)^2 + (y-0.5)^2) <= 0.5)
+ pi <- 4*prob
+ return(c(prob = prob, pi = pi))
+ }
> # get the value of estimated value of pi
> set.seed(123)
> # > pi.fun(10000)
> # prob pi
> #pi is given by draws and multiplying it by four
>
>
>

> > #probability of random point in square is inside the circle using nsim
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+ x <- runif(nsim)
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+ prob <- mean(sqrt((x-0.5)^2 + (y-0.5)^2) <= 0.5)
+ pi <- 4*prob
+ return(c(prob = prob, pi = pi))
+ }
> # approximations of pi
> set.seed(123)
> pi.fun(10000)
  prob     pi
0.7894 3.1576
>
```